Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A cooking thermometer having an audible alarm, comprising:

a generally cylindrical housing assembly and a substantially hollow skewer extending coaxially therefrom, said skewer having a proximal end contiguous to said housing assembly and a sharpened distal end; said housing assembly further including a temperature indicia plate, a pivoting pointer movable over said indicia plate; a set temperature needle selectably manually positionable over said indicia plate, and a tension wound spring-type audible alarm mechanism activated by alignment of said set temperature needle and said pointer,

a linear segment of heat contractible shape memory alloy wire disposed within said skewer and having a first end and a second end wherein said first end is fastened to said distal end of said skewer, said shape memory alloy wire being selected such that said wire begins phase transformation at a first lower temperature M_S and completes phase transformation at a second higher temperature A_F;

a connecting wire having first and second ends wherein a lower portion of said connecting wire is disposed within said skewer and an upper portion extends into said cylindrical housing, said connecting wire having a first end secured to said second end of said shape memory alloy wire;

a wire guide member positioned in said housing proximate said skewer including a curvilinear passage therein adapted to allow sliding displacement of said connecting wire therethrough, wherein said connecting wire extends coaxially out of said skewer into said wire guide member and said second end of said connecting wire extends out of said wire guide member in a direction approximately normal to said skewer;

a gear assembly rotatably mounted in said housing wherein said second end of said connecting wire is fixedly attached to said gear assembly whereby sliding displacement of said connecting wire through said wire guide member causes the rotation of said gear assembly, which rotation is transmitted to said pointer through a cooperating gear train; and

a spring biasing means applied to said gear assembly constructed and arranged to exert stress on said shape memory alloy wire via said gear assembly, said spring biasing means having parameters which are configured to impart desired phase transformation characteristics to said shape memory alloy wire whereby optimization of said ~~austenite/martensite~~ phase ~~transition~~ transformation and linearity of temperature response are obtained.

2. (Original) The cooking thermometer of claim 1, wherein said spring biasing means comprises at least one helical spring having a first end fixedly attached to said gear assembly and a second end fixedly attached to at least one anchor member positioned in said housing.

3. (Original) The cooking thermometer of claim 2, wherein said gear assembly includes a sector gear having a plurality of teeth arranged on an arcuate outer edge and a diametric projection extending therefrom, wherein said projection is adapted for attachment to said second end of said connecting wire and said at least one helical spring.

4. (Original) The cooking thermometer of claim 2, wherein the position of said at least one anchor member in said cylindrical housing relative to said gear assembly is selected to impart the desired tension characteristics to the helical spring whereby a desired temperature range is achieved.

5. (Original) The cooking thermometer of claim 1, wherein M_S is approximately 140° F and A_F is approximately 185° F.

6. (Original) The cooking thermometer of claim 1, wherein said shape memory alloy wire is nickel titanium.

7. (Currently amended) The cooking thermometer of claim [[1]] 2, wherein said helical spring has a spring constant of about 7.0 lb/in., a free length of about 0.38 in., a solid length of about .096 in., and a load at solid length of about 1.7 lbs..

8. (Original) The cooking thermometer of claim 1, wherein said connecting wire is a wire cable.

9. (Original) The cooking thermometer of claim 1, wherein said wire guide member includes a cylindrical lower portion coaxially adjacent to said skewer having an aperture extending axially therethrough and an upper portion having a curvilinear channel contiguous to said aperture wherein said connecting wire slidingly extends through said aperture and said curvilinear channel.

10. (Original) The cooking thermometer of claim 1, wherein said housing assembly includes upper and lower portions rotatable with respect to one another, wherein rotation of said upper portion with respect to said lower portion winds said alarm mechanism.

11. (Original) The cooking thermometer of claim 7, wherein said housing assembly further includes a rotatable central ring portion circumferentially disposed between said upper and lower portions, said central ring portion linked with said set needle to allow manual selection of a set temperature by rotation of the ring portion.

12. (Currently amended) A cooking thermometer, comprising:

a generally cylindrical housing assembly and a substantially hollow skewer extending coaxially therefrom, said skewer having a proximal end contiguous to said housing assembly and a sharpened distal end; said housing assembly further including a temperature indicia plate, and a pivoting pointer movable over said indicia plate;

a linear segment of heat contractible shape memory alloy wire disposed within said skewer and having a first end and a second end wherein said first end is fastened to said distal end of said skewer, said shape memory alloy wire being selected such that said wire begins phase transformation at a first lower temperature M_S and completes phase transformation at a second higher temperature A_F;

a connecting wire having first and second ends wherein a lower portion of said connecting wire is disposed within said skewer and an upper portion extends into said cylindrical housing, said connecting wire having a first end secured to said second end of said shape memory alloy wire;

a wire guide member positioned in said housing proximate said skewer including a curvilinear passage therein adapted to allow sliding displacement of said connecting wire therethrough, wherein said connecting wire extends coaxially out of said skewer into said wire guide member and said second end of said connecting wire extends out of said wire guide member in a direction approximately normal to said skewer;

a gear assembly rotatably mounted in said housing wherein said second end of said connecting wire is fixedly attached to said gear assembly whereby sliding displacement of said connecting wire through said wire guide member causes the rotation of said gear assembly, which rotation is transmitted to said pointer through a cooperating gear train; and

a spring biasing means applied to said gear assembly constructed and arranged to exert stress on said shape memory alloy wire via said gear assembly, said spring biasing means having parameters which are configured to impart desired phase transformation characteristics to said shape memory alloy wire whereby optimization of said ~~austenite/martensite~~ phase ~~transition~~ transformation and linearity of temperature response are obtained.

13. (Original) The cooking thermometer of claim 12, wherein said spring biasing means comprises at least one helical spring having a first end fixedly attached to said gear assembly and a second end fixedly attached to at least one anchor member positioned in said housing.

14. (Original) The cooking thermometer of claim 13, wherein said gear assembly includes a sector gear having a plurality of teeth arranged on an arcuate outer edge and a diametric projection extending therefrom, wherein said projection is adapted for attachment to said second end of said connecting wire and said at least one helical spring.

15. (Original) The cooking thermometer of claim 13, wherein the position of said at least one anchor member in said cylindrical housing relative to said gear assembly is selected to impart the desired tension characteristics to the helical spring whereby a desired temperature range is achieved.

16. (Original) The cooking thermometer of claim 12, wherein M_S is approximately 140° F and A_F is approximately 185° F.

17. (Original) The cooking thermometer of claim 12, wherein said shape memory alloy wire is nickel titanium.

18. (Currently amended) The cooking thermometer of claim [[12]] 13, wherein said helical spring has a spring constant of about 7.0 lb/in., a free length of about 0.38 in., a solid length of about .096 in., and a load at solid length of about 1.7 lbs..

19. (Original) The cooking thermometer of claim 12, wherein said connecting wire is a wire cable.

20. (Original) The cooking thermometer of claim 12, wherein said wire guide member includes a cylindrical lower portion coaxially adjacent to said skewer having an aperture extending axially therethrough and an upper portion having a curvilinear channel contiguous to said aperture wherein said connecting wire slidingly extends through said aperture and said curvilinear channel.